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What Does the Health Concern Questionnaire Really Tell Us?

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INTRODUCTION

In the process of living we are continuously encountering various environmental circumstances which try our physiological and psychological defenses. It is thought that an accumulation of many events - or stressors - within a short period of time can cause the body to go into a general adaptation syndrome, resulting in the "fight or flight response."^{1,2} This response is exhibited in increased adrenal production leading to faster heart rate, increased blood pressure, decreased activity of the digestive tract, and muscular tension. If environmental stressors are relatively minor and infrequent, adequate adjustment without undue problems to the individual is thought to occur. However, it is postulated that if the individual undergoes many life change events in a relatively short period of time, then an overloading of his/her defense systems occurs. This, then, is thought to lead to physiological changes which cause an anxiety reaction.³⁻⁶

In a high anxiety state caused by many life change events, apprehension about diseases and illness appear to be common, and the individual may have many concerns about health related matters.

These concerns about health are thought by some to be

an important medium through which people express anxiety. Another way of expressing anxiety is through the manifestation of illness which can, of course, cause problems for the individual.⁴

Over the past few years, numerous studies have been carried out which indicate that illness often results from an increase in life change events in a person's life, In the case of adults, serious debilitating diseases have been found to occur within a year after many life changes, while students and other young adults have been found to succumb to many minor and a few major illnesses.^{3,5}

In the schools some youngsters and students complain of feeling ill, but do not exhibit signs or symptoms of physical disorders. These complaints are often psychogenic in origin, due to immediate life events, but are usually short-lived and will disappear after the stress situation, such as taking a test, has been removed. Other students exhibit psychosomatic illnesses, caused by an increase of life change events, such as hives, ulcers, hypertension, tension headaches, colitis and various allergies. Students with these problems are often seen by school nurses, health educators and counselors. In many cases these youths need psychological and physical referrals for their illnesses, although the underlying tensions and anxieties which are producing them are often not readily observable to school personnel.^{7,8} It is common in health education classes to determine what kinds of health worries

or concerns students are having as an aid in course planning^{9,10}

However, health educators, school nurses or counselors rarely look at concerns about health as being possible indications of life change events or stress which could lead to illness.

A question of interest to school personnel and researchers would be: is there an association between health concerns, as measured by the "Health Concern Questionnaire," and life stress, as measured by the "Social Readjustment Rating Scale" as is suggested by the literature.

The "Health Concerns Questionnaire" takes about 20 minutes to complete and gives the degree of concern for individual items, but a total concern score cannot be calculated in its present form. An instrument in which a total Health Concerns Score could be calculated would be useful for health educators and researchers. Also a shortened version of the instrument which indicates a total concern about health could be useful for the teacher, counselor, nurse, or researcher.

PURPOSE OF THE STUDY

Based on the literature which suggests that people who have undergone many life change events have a higher probability of becoming ill within a year of the events and have increased anxiety leading to more concerns about health, a purpose of this study was to examine possible associations between health concerns of students as measured by the Engs^{10, 11}

A purpose of the study was to develop a method to calculate the students' total concern about health rather than just degree of concern for individual items. Because the "Health Concerns Questionnaire" takes considerable time to complete, about 20 minutes, a secondary purpose of this study was to determine the

possibility of a shortened version of the instrument so that it could be more useful for classroom administration and research projects.

METHODOLOGY

The Instruments

The "Social Readjustment Rating Scale" defines stress as a set of any circumstances or life change units that significantly requires change in the individual's ongoing life patterns. Each of these life change units, such as death of a spouse, marriage, change in a job, or dating habits, are assigned a specific numerical weight as to their relative ability to cause stress and social discourse. A total score for the instrument, called the Life Stress Score, is then determined by asking the individual to check events which have occurred within the past year. Numerous studies have indicated that, in general, individuals who score fewer than 150 points for a given year report good health for the following year. However, about one half of those individuals reporting a score between 150 and 300, and almost 70% of individuals with scores of 300 or above, reported illness during the following year.

The "Health Concern Questionnaire" defines a health concern as something that causes an individual to feel anxious, worried or disturbed because of its potentiality for effecting his/her, his/her family or society's mental, physical or social well-being. This instrument asks the individual to express his/her degree of concern for each of 50 health related items from "very concerned," which is given a value of 5, to "not concerned," which is given a value of 1. The items by their mean score are then usually ranked in descending order to determine the top ten to fifteen health concerns of the

students.

Sample and Procedure

The 306 students enrolled in the personal health classes during the academic year 1977-1978 were administered the "Health Concerns Questionnaire" and the Social Readjustment Rating Scale" to determine a total score as a means of modifying the "Health Concern Questionnaire, so that a Total Health Concern Score could be calculated for each subject, several procedures were undertaken. The students were asked to express their degree of concern for each of the 50 items they were most concerned about, so that the relative weight for each item in comparison to others could be calculated.

By computer analysis, each item for each student was then checked to see where it fell in the ranking of 1 to 25. If any item was found to be ranked in first place, it was given a value of 25; any item found to be in second place in ranking was given a value of 25, etc. This gave a weighted score for each item. A total mean score for each item was then calculated by summing the values indicated by the rankings and then dividing by the number of individuals ranking the item. This weighted mean score for each of the 50 items was then multiplied by the degree of concern the students expressed for each item. These individual item scores were then summed to obtain a Total Health Concern Score for each student.

The top 12 ranked items, by the weighted mean, were selected for a briefer version of the instrument. The weighted mean for these items was also multiplied by the degree of concern expressed for each item by each student, and a Total Health Concern Score was calculated for each student for these 12 items.

RESULTS

Association Between the Social Readjustment Rating Scale and The Health Concern Questionnaire

The Pearson Product Moment Method was used to assess a possible association between the Health Concern Score for both the 12 selected items and the regular version of the "Health Concern Questionnaire" and the stress level score on the-social Readjustment Rating Scale: Only a slight positive correlation between both of the versions of the "Health Concern Questionnaire" and the "Social Readjustment Rating Scale" ($r=.20$) was found with a probability value of $p < .001$.

Association Between Selected Items From the "Health Concern Questionnaire" and the Regular Version of This Instrument

To determine if there was an association between the top twelve ranked items from the "Health Concern Questionnaire" and the total instrument, the Pearson Product Moment Method of correlation was computed. The correlation between these selected items and the total instrument was found to be quite high ($r=.94$).

Selected Items from the "Health Concern q questionnaire" To Determine a Total Health Concern Score The mean score for the 12 selected items from the "Health Concern Questionnaire" was 850 with a standard deviation of One half of a standard deviation on either side of the mean was used to compute a HIGH (>940), MEDIUM (760-940) and LOW (<760) score on this instrument. The percentage of students scoring in these ranges was 34, 38 and 27 respectively.

The weighted mean computed from the process of rank ordering each item and the mean degree of concern for each of the following items in this sample is found in Table I.

DISCUSSION AND CONCLUSIONS

There was only a slight positive correlation between the health concerns; as measured by the Total Concern Score on the "Health Concern Questionnaire" and stress, as measure by the Life Stress Score on the "Social Readjustment Rating Scale." The literature suggests that many life events cause anxiety which then can lead to illness and/or concerns about health and illness. The literature does suggest, however, that there are many intervening variables which may influence a person's anxieties about health and other matters even though they have been under life change stresses, such as perception of the seriousness of the events which may have influenced the results of the study. In view of the fact that there appears to be only minimal positive correlation between these two instruments, it is suggested that further research be undertaken to clarify the issue of stress leading to increased concerns about health matters.

Taking into consideration the limitations of the 12 items from the "Health Concern Questionnaire" being selected from the same sample, there appears to be a high positive association between the total score for these items and the total instrument. This shortened version is also easy to administer, It takes about 5 minutes to complete, including the calculations of the 'Total Concern Score, This is accomplished by the student multiplying the weighted mean for each item by his/her degree of concern, expressed for the item and their summary thesis. Because this shortened test can be rapidly administered, it can be of value to teachers, school nurses and researchers who wish to assess how concerned students are about general health matters.

Since there is a slight positive correlation between concerns about health and stress as measured by the instruments used in this study, students who score HIGH on the 12 top ranked items of the "Health Concern Questionnaire" and who, in fact, have had many life change events during the past year could be counseled as to the possibility of becoming ill with various preventive measure techniques being discussed. However, high scores on this instrument, as being associated with high stress, must be viewed with caution due to the fact that the correlation was only slight.

SUMMARY

In summary, there appears to be only a very slight association between health concerns and stress as measured by the "Health Concern Questionnaire" and the Social Read-justment Rating Scale

However, there appears to be a high degree of correlation between the top 12 ranked items from the "Health Concern Questionnaire" and the total instrument which was modified to assess how concerned, in general, students are about health matters.

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TABLE I

Rank order of top twelve health concerns by weighted mean

Items Rank Ordered by Weighted Mean	Weighted Mean	Mean Score for Degree of Concern
1. Cancer	31	3.84
2. What I'll be like in 10 years	27	3.84
3. Auto Accidents	23	3.67
4. Heart Disease	23	3.47
5. Overweight	22	3.33
6. Death	21	3.06
7. Air pollution	19	3.19
8. Smoking and Disease	19	3.33
9. Water Pollution	18	3.10
10. Blindness	16	3.14
11. Nervousness	16	2.90
12. Sex Behavior	16	3.05

N = 306

SD = 180

\bar{x} = 850